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H4R RLS

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(54) Abstract Title

Connecting underseas communication cables to distribution points on land

(57) Underseas communication cables 6 are connected to cables 8 such as fibre optic cables at a gathering point near the coast, the cables 8 running in trenches or on river beds to distribution points near cities. The gathering point may be on land or off the coast, and may be in a lighthouse or on an oil platform 2, the cables 6 and 8 passing through a so-called J-tube. Several gathering points may be connected together.

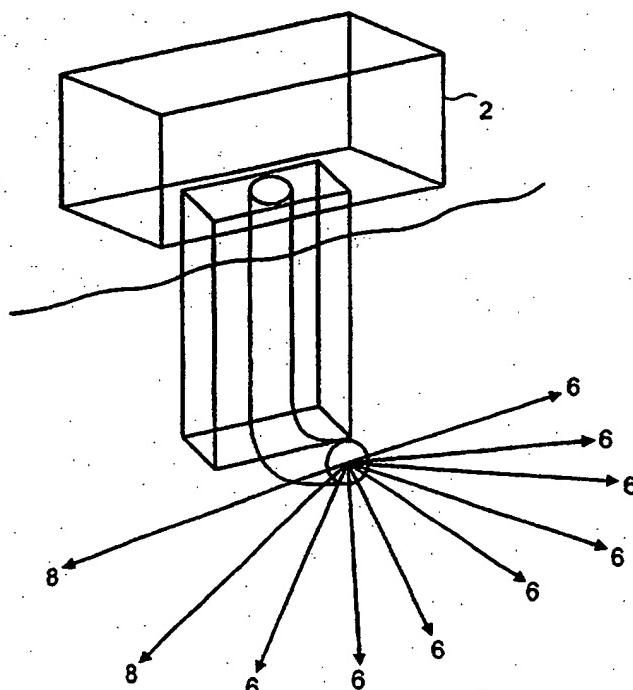


FIG.1

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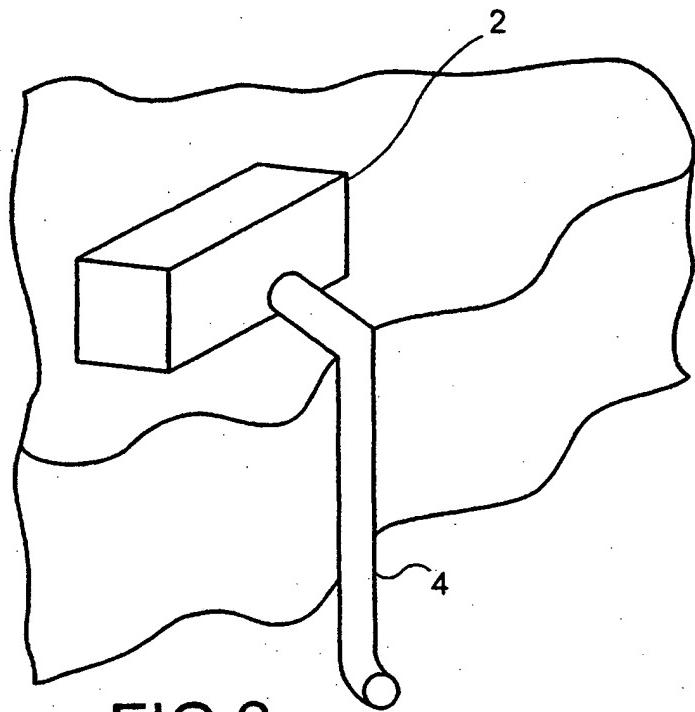


FIG.2

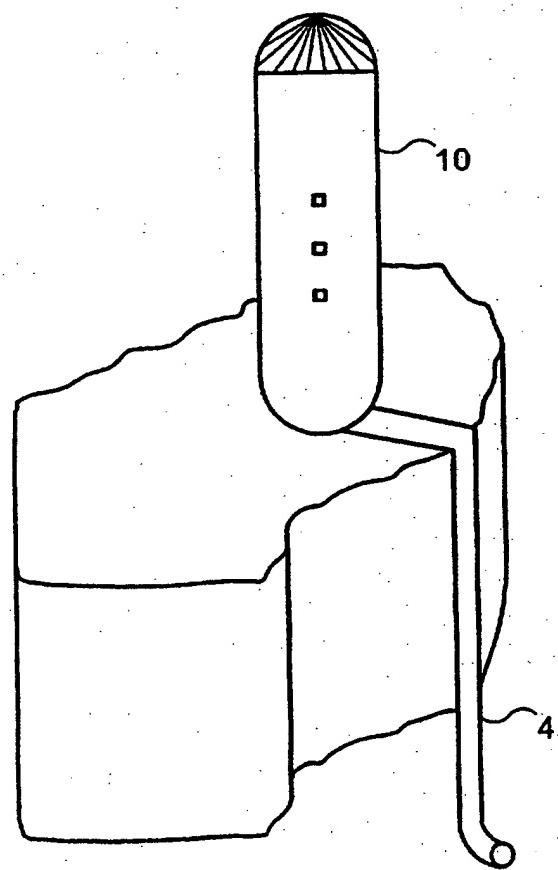
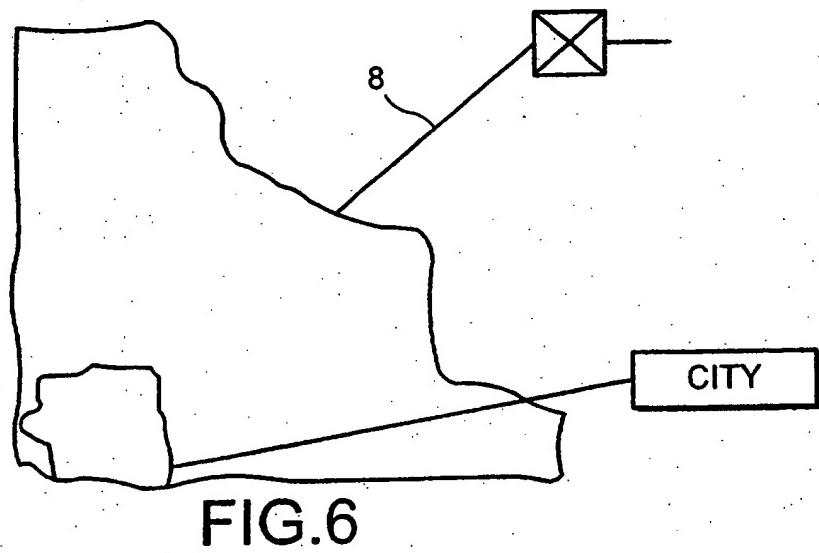
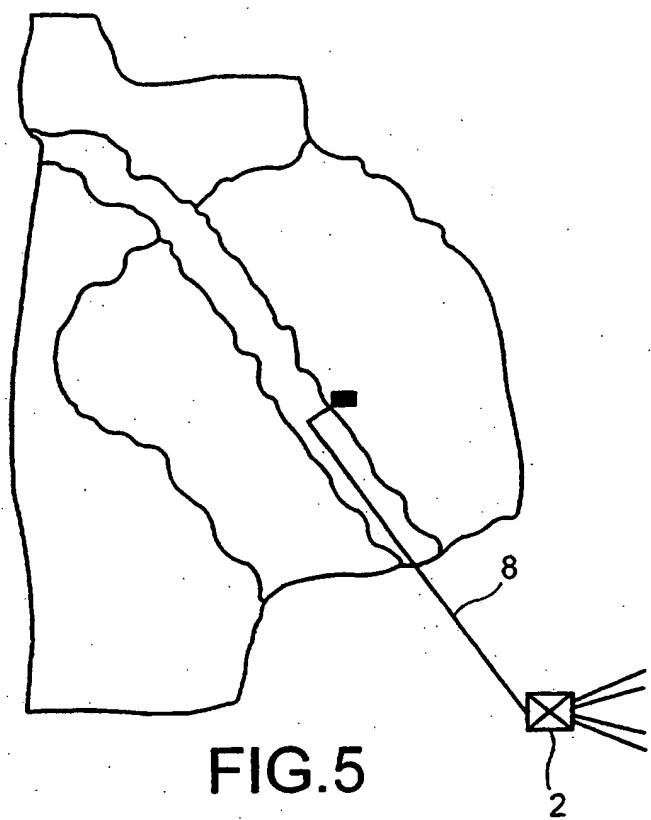
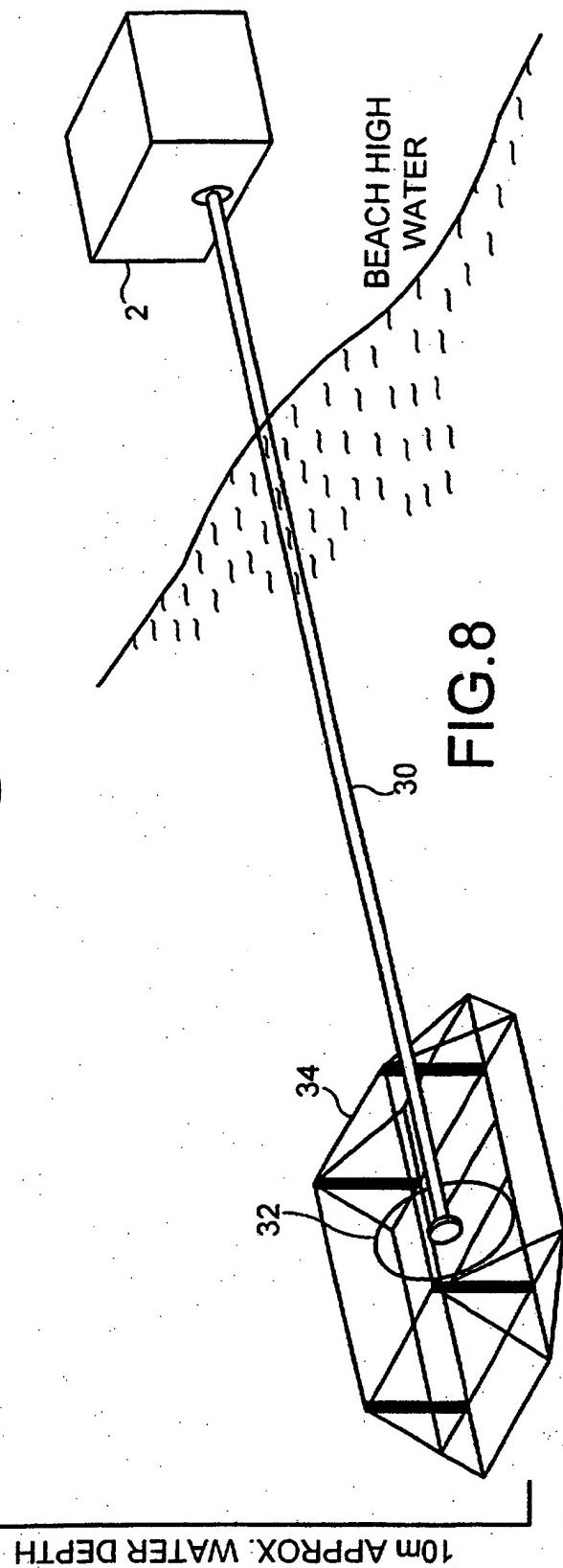
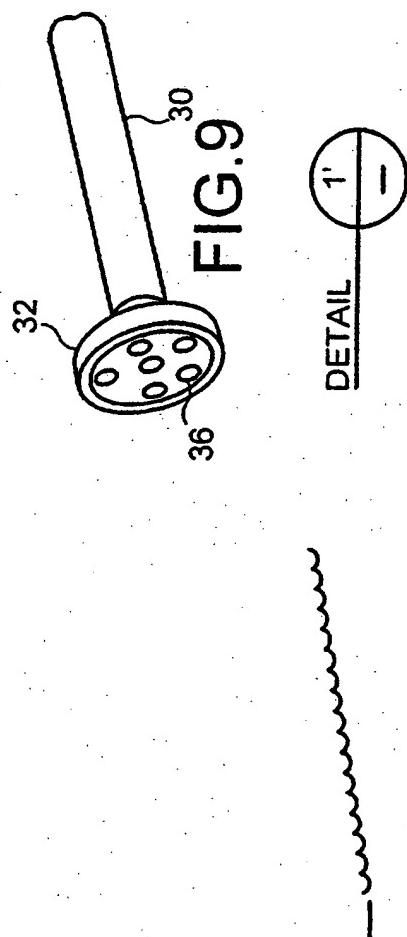
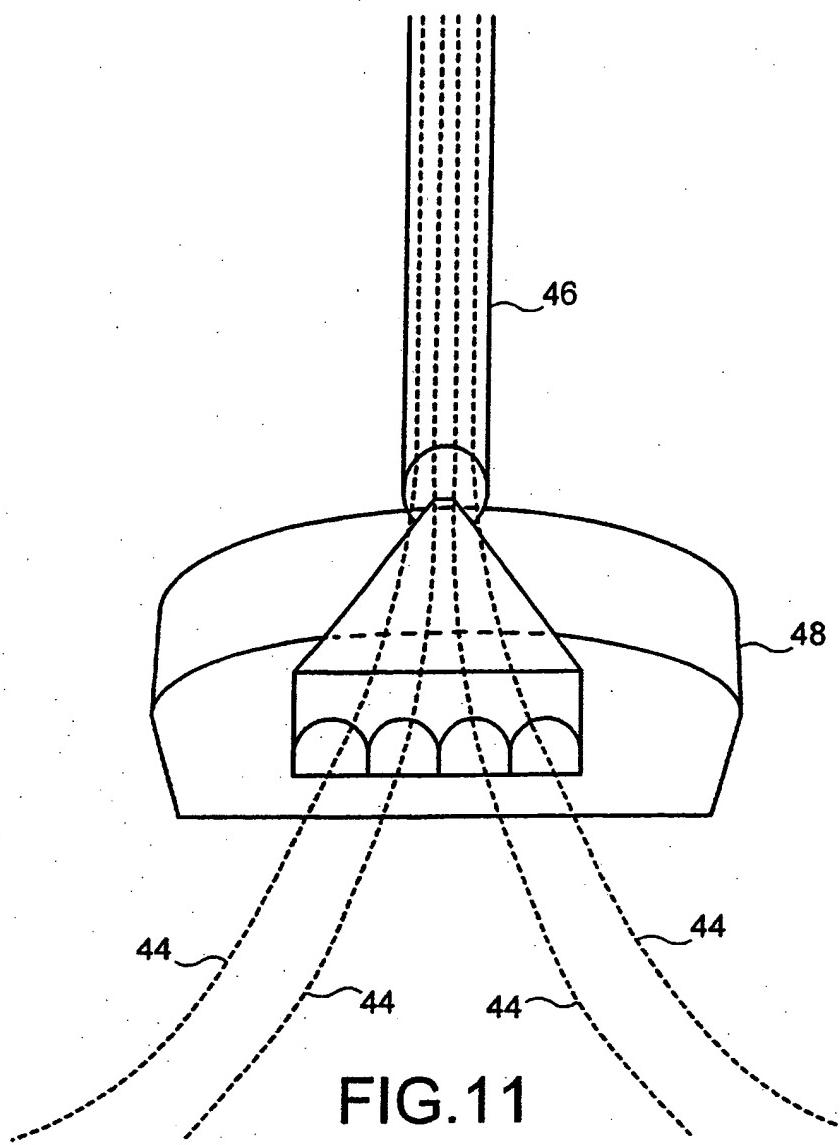


FIG.3







Alternatively, it may be provided on the coastline or a short distance inland.

5 The high bandwidth communication channel to a city can be provided in a trench leading from the coastal landing of the communication channel to the city. If this is done then only a single trench has to be dug and future communication channels linked to the gathering point do not require new trenches.

10 Alternatively, and preferably, the high bandwidth communication channel may be laid up a river bed leading to the town or city, where it may then be connected to a distribution point.

15 Preferred embodiments of the invention will now be described in detail by way of example with reference to the accompanying drawings in which:

Fig. 1 shows an offshore gathering point, provided on a continental shelf;

Fig. 2 shows a gathering point provided on a cliff top;

20 Fig. 3 shows a gathering point provided at a lighthouse on a cliff top;

Fig. 4 shows an offshore gathering point;

Fig. 5 shows the plan view of the gathering point connected to the distribution point along a river;

25 Fig. 6 shows an offshore gathering point connected to a city over land;

Fig. 7 shows a coastal festoon system with a number of gathering points interconnected;

Fig. 8 shows an alternative arrangement to the J-tube for receiving incoming cables; and

30 Fig. 9 shows a detail of the cable pulling flange and pipeline from Figure 8.

passing down the cliff top on which it stands to the sea bed.

Fig. 4 shows another offshore platform which is in the form of an oil platform. This has a base structure (12) which sits on the sea bed, and an over sea platform portion and a J-Tube which passes down the base structure (12) and emerges at the sea bed.

Fig. 5 shows how a cable may be provided along a river (16) to a distribution point or a telehouse (18) in a city. In this case, the high bandwidth cable (8) comes from an offshore gathering point (2).

Fig. 6 shows the alternative arrangement where there is no river to the city and the high bandwidth cable (8) has to be sunk in an overland trench.

Fig. 7 shows an arrangement whereby a plurality of gathering points (2) are provided off a coast and are connected together by high bandwidth cables (20). At certain points, high band width cables (8) connect the interconnected gathering points to land. Such a system could be provided along a long coast line where it is desired to take communication lines to more than one point.

Using the system described enables communication links to be made between cities much more cheaply and quickly than is currently the case.

Figure 8 shows an alternative cable input arrangement. A telehouse or connection point 2 is provided on land. This is connected via a pipeline 30 to a cable pull-in flange 32 which is provided under the sea and is enclosed within a protective cage 34. The cables enter the pipeline via the flange and then lead to the connection point 2.

CLAIMS

1. A method for connecting undersea communication cables to at least one distribution point on land comprising the steps of:
 - 5 providing a gathering point near to a coast line; connecting the gathering point to the distribution point;
 - connecting a plurality of input cables to the gathering point.
- 10 2. A method according to claim 1 in which the step of connecting the gathering point to the distribution point comprises connecting via a cable laid along a riverbed.
- 15 3. A system for connecting undersea communication cables to at least one distribution point comprising:
 - a gathering point near to a coast line into which a plurality of undersea cables are received;
 - a distribution point for sending out communications received along the underseas cables; and
 - 20 a communications cable between the gathering point and the distribution point.
4. A system according to claim 3 in which the communication cable between the gathering point and the distribution point is laid along a river bed.
- 25 5. A system according to claim 3 or 4 in which the gathering point comprises a J-Tube leading to the sea bed and through which the undersea communication cables are received.
- 30 6. A method for connecting undersea communication cables to at least one distribution point substantially as herein described.



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Claims searched: all

Examiner: Martyn Dixon
Date of search: 6 April 2001

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

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Int Cl (Ed.7): H04B; H04H; H02G

Other: Online: EPODOC, WPI, JAPIO

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X	JP 580079351 A (Nippon Denki) see abstract	1,3

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|---|---|---|--|
| X | Document indicating lack of novelty or inventive step. | A | Document indicating technological background and/or state of the art. |
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